

APPENDIX A
"CLEAN" VERSION OF EACH PARAGRAPH/SECTION/CLAIM
37 C.F.R. § 1.121(b)(ii) AND (c)(i)

SPECIFICATION:

Replacement for the paragraph beginning at page 2, line 4:

D¹ Further with the loudspeaker unit in which only correction of the frequency characteristic is executed, there is a problem in that no correction can be made to a sound lag and phase shift caused by the reverbation and echoing of the sound.

Replacement for the paragraph beginning at page 2, line 21 through page 3, line 8:

D² The loudspeaker unit of the present invention comprises a microphone for picking up a sound regenerated from a loudspeaker; processing means for comparing in real time an output signal from the microphone with an output signal from a sound source, in particular by referencing the characteristic at an optional frequency and the characteristics of the reverberation as well as of the echo, each including a delay time, respectively, and correcting the signal from the sound source with the difference output signal between the microphone and the sound source; an amplifier for amplifying the output of the processing means; and a loudspeaker unit.

Replacement for the paragraph beginning at page 3, line 9:

D³ Also in the present invention, a signal to be sent to the loudspeaker is corrected by the result obtained through an arithmetic operation. Using the result of a comparison operation, a parameter which is used to correct the signal to be sent to the loudspeaker is intermittently renewed.

Replacement for the paragraph beginning at page 4, line 2 (through line 8):

D⁴ In other words, according to the present invention, the loudspeaker unit does not need a reference signal generator to be used for comparison and a switch for selecting this signal, unlike the prior art.

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Further, since the processing module of the loudspeaker unit receives a feedback signal in real time, the procedure described above in the prior art loudspeaker unit is not needed for the correction.

Replacement for the three paragraphs beginning at page 4, line 14:

D5
Fig. 2 is a structural view showing an embodiment of a loudspeaker unit adapted to the environment accordance with the present invention.

Fig. 3 is a structural view showing a concrete embodiment of a loudspeaker unit adapted to the environment in accordance with the present invention.

Fig. 4 is a structural view showing another embodiment of a loudspeaker unit adapted to the environment in accordance with the present invention.

Replacement for paragraph beginning at page 8, line 3:

D6
The intensity of the reverberation and the change of the frequency characteristic are corrected according to the result obtained with respect to the data of sound source 2. After analyzing the frequency characteristic and the delay attributable to the reverberation as well as the echo, the value set for correction is changed to determine the correction parameter.

Replacement for the two paragraphs beginning at page 8, line 12:

D7
With reference to Fig. 4, in order to decrease the load of processor module 3, data processing for the correction process is not performed in real time, but a correction parameter previously extracted from the past feed back iteration is used intermittently. Thus, it becomes possible to correct the sound delay and the phase shift which may be caused by reverberation and echo of the sound.

Further, by attaching microphone 6 to a casing of loudspeaker unit 1 of the present invention, any wiring which would otherwise be exposed outside of the casing can be omitted.

CLAIMS (with indication of amended or new):

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1. (Amended) A loudspeaker unit for a sound source, the loudspeaker unit being adaptable to changing environments, comprising;
a loudspeaker;
a microphone for picking up sound regenerated from the loudspeaker;
a processor for comparing in real time an output signal from the microphone with an output signal from a sound source with reference to a frequency characteristic and an echo characteristic of the sound regenerated from the loudspeaker, or a reverberation characteristic of the sound, including the delay time for the echo characteristic or the reverberation characteristic, and correcting a signal from the sound source using the difference in output signal between the microphone and the sound source by reference to the frequency characteristic and the echo characteristic or the reverberation characteristic; and
10 an amplifier for amplifying the output of the processor.

09
5. (Amended) A loudspeaker unit adapted to the environment according to Claim 2, wherein, the frequency comparison of the characteristic and the comparison of the characteristic of the echo or the reverberation each including the delay time are learned by arithmetic and a signal to be sent to the loudspeaker is corrected according to the learned result.

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7. (Amended) A loudspeaker unit adapted to the environment according to Claim 2, wherein, the frequency comparison of the characteristic and the comparison of the characteristic of the echo or the reverberation each including the delay time are intermittently performed and a signal to be sent to the loudspeaker is corrected according to the comparison result.